REMARKS

I. Allowable Subject Matter

Allowable subject matter in the dependent claims 2 to 8 and 10 to 17 was indicated in paragraph 7 on page 3 of the Office Action. The indication of allowable subject matter is gratefully acknowledged.

II. Substitute Specification

The specification was objected to in paragraph 1 of the Office Action because the meaning of "lever gear" and "coupling gear" was not clear. In addition, there was some incorrect wording in the specification. Drawing reference numbers required correction as well as the description of the drawing figures in the specification. Section headings required correction and the reference to claim 1 on page 1 required clarification. Some grammatical and translation errors required correction, especially for inappropriate English word choice.

The term "gear" which appeared in claims as well as the specification was an inappropriate translation of the German word "Getriebe", which has several different meanings according to the context. The word "Getriebe" can mean "drive unit or drive mechanism or gears or transmission or gear unit"(A copy of a page from a German-English Dictionary could be filed, if necessary). However according to the context, "drive unit" or "drive mechanism", i.e. a collection of

mechanical elements or parts, which cooperate to drive something else, is the appropriate English translation of this German word. Hence the term "coupling lever" should have been translated "coupling drive" or "coupling mechanism". This latter translation has been used in the above substitute specification and in the claims. This change does not introduce "new matter" because it is apparent from the figure 1 that the collection of parts 22, 24, 26, etc. is a coupling drive or mechanism, i.e. a means for transferring or converting an applied mechanical force or motion to move an element, such as the lever drive, connected with the coupling mechanism. Some other inappropriate choices for English translation of German words have been changed to more appropriate choices.

The term "lever gear" has similarly been changed to "lever drive mechanism". Also probably the term "means" could be used in place of "mechanism", if necessary.

Although the term "lever" is usually associated with a bar or rigid piece that transmits force or is used to dislodge something, especially in the context of mechanics, it can and does also mean "any means, instrument or agency used for achieving a purpose". For example, see Webster's Third New International Dictionary meaning 1 b. under "lever[1]". However it is believed that the changes made in the substitute specification and also the claims provide a text that is more understandable with more appropriate English translations of words than the original text for the specification and claims.

The term "four-bar wiper lever" however has not been changed. This term is defined in the background section of the specification and is a well-known term

familiar to those who design and work with wiper system mechanisms. This term is defined and described in the third paragraph of the substitute specification. Also it is used for the component labeled with "40" in the drawing.

Because the headings are not easily seen as part of a paragraph or a section and for simplicity a substitute specification has been voluntarily prepared to make the required changes in the English translation to produce a more understandable description. The substitute specification has been drafted in accordance with 37 C.F.R. 1.125 (b) with the paragraphs numbered with Arabic numerals. Numbering is consecutive, accept that the single paragraph including the brief description of each group of figures or figures has been provided with numbers 14 to 20 each numbering individually indented parts of the paragraph.

A marked-up copy of the originally filed specification, which shows the changes made to obtain the above clean copy of the substitute specification, has also accompanies this amendment. This marked-up copy has been prepared in accordance with M.P.E.P. 608.01 (q). No new matter has been entered.

It is respectfully submitted that the description in the substitute specification would be clearly understood by one skilled in the wiper system arts.

The "list of reference numbers" has been deleted, since such parts lists are not usually part of a U.S. specification and because the terms have changed in some cases.

For the foregoing reasons and because of the changes in the specification, withdrawal of the objection to the specification in paragraph 1 of the Office Action is respectfully requested.

III. Change in Fig. 3

The original figure 3 incorrectly assigned "guide rod 26", as described in the detailed description, the drawing reference number 38.

A copy of drawing sheet 3/5 including figure 3 with the appropriate change of reference number 38 to 26 accompanies this amendment. Approval and entry of the change in figure 3 is respectfully requested.

IV. Rejection under 35 U.S.C. 112, Second Paragraph

Claims 1 to 17 were rejected under 35 U.S.C. 112, second paragraph, for indefiniteness.

This indefiniteness rejection has been obviated by cancellation of claims 1 to 17. However new claims 18 to 38 contain the same subject matter as claims 1 to 17.

New claims 18 to 38 do not contain the unfamiliar and unconventional terms "lever gear" and "coupling gear". These terms have been changed to "lever drive mechanism" and "coupling mechanism" as explained above. The parts of these mechanisms are defined in the independent claims, e.g. claim 18. Also the coupling mechanism and lever drive mechanism are defined in the second and third paragraphs of the description of the preferred embodiments.

The motor drive motions are transmitted through the coupling mechanism, e.g. as claimed in claim 18, to the joint rod 28, which largely executes a horizontal reciprocating motion because of the structure of the coupling

mechanism or means, as explained in the paragraph 24 of the substitute specification above. This is an advantageously compact motion-transmitting device. The joint rod 28 is pivotally connected to the lever drive mechanism for the wiper 12, which includes the four-bar wiper lever 40, which causes the wiper 12 to execute the desired reciprocating and swiveling motion that covers the windshield contour, as explained in paragraph 23 of the substitute specification.

The new claims have been checked for antecedent basis errors and are believed to be free of such errors. No relative terms or the like have been used.

For the foregoing reasons and because of the changes in the wording of the new claims, it is respectfully submitted that none of the new claims 18 to 38 should be rejected under 35 U.S.C. 112, second paragraph.

V. Changes in the Abstract

The abstract was amended in a manner similar to claim 1. The appropriate term changes and other wording changes were made so that the description in the abstract corresponds to that in claim 1. Also the abstract has been amended to put it in a single paragraph as required by the rules.

VI. Anticipation Rejection of Claims 1 and 9

Claims 1 and 9, as best understood, were rejected as anticipated under 35 U.S.C. 102 (b) by Hayashi, et al, JP 10-278744. This JP reference has a U.S. Patent equivalent, namely U.S. Patent 5,920,948.

The following explanation should elucidate the primary differences

between the wiper drive apparatus claimed in independent claims 18 and 29 of this application and the wiper apparatus described in U.S. Patent 5,920,948. The references to "amendment figures" refer to figures that are attached to this amendment. These "amendment figures" are not intended to be new figures for this application, but only serve to help understand the following explanations of the mechanisms of the prior art wiper drive apparatus and that of the invention.

Amendment figure 1 is figure 1 of U.S. Patent 5,920,948, which is equivalent to Hayashi, et al, JP 10-278744. This amendment figure shows the prior art wiper drive apparatus of Hayashi, et al. Amendment figure 2 is figure 1 of the above-identified application, except that it is reflected about a central vertical axis, i.e. it is a mirror reflected figure 1 of the above application. This makes it easier to see the relationship of applicants' wiper drive apparatus and the wiper drive apparatus of the prior art.

In addition amendment figure 2, which shows a preferred wiper drive apparatus of the applicants, includes three dashed circled regions or parts of the wiper drive apparatus. The dashed circle III shows the coupling mechanism 20, which the prior art wiper apparatus does not have. Dashed region II shows the first lever drive mechanism of claim 29 and 18. Dashed region I shows the second lever drive mechanism of claim 29.

Also dashed regions I and II are also shown in amendment figure 1, which shows the prior art wiper drive apparatus. These regions I and II of the wiper drive apparatus are the conventional lever drive mechanisms, which do not include the special distinguishing features of the present invention. Dashed

region I acts generally to drive the wiper 12 on the driver side. At a turning point the wiper is approximately parallel to the lower edge of the window, while it is parallel to and near the side of the vehicle window at the other turning point. According to Hayashi, et al, the wiper 12 is driven by a wiper motor 9 by means of a link 10 and a link rod 11a by means of a wiper side crank in the conventional manner. For this purpose the link rod 11a is connected pivotally with the motor link 10 and the wiper side crank.

On the passenger side of this prior art wiper drive apparatus the wiper drive apparatus has a lever drive mechanism II for the wiper 3, which is formed as a multi-link drive mechanism, a four-link drive mechanism, as in the case of the present application. This sort of link drive mechanism superimposes a displacement motion on the pivotal motion of the wipers 3 and/or 12, so that the wiper blade 2 reaches further into the upper corner of the windshield and thus covers a greater area with the wiper, i.e. a larger wiper field. The multi-link drive mechanism, a four-bar link mechanism in the case of the present invention, has a drive link 4 and/or 36, which is driven by an additional coupling rod 11b and/or 28. The coupling rod 11b is pivotally mounted on the motor crank 10 of the wiper motor 9 on one end and on the other end on the drive link 4. In the common manner the coupling rods 11a and 11b are connected to the motor crank or link 10.

In contrast the wiper drive according to the invention differs from the prior art on the side of the wiper motor indicated as region III, which includes the so-called coupling drive 20. The coupling drive 20 in region III, as claimed in claims

18 and 28, has a coupling rod 24, which is pivotally connected to the motor crank 22 on one end and pivotally connected with a link pivotally mounted on the chassis on its other end.

Because of the form of the coupling drive 20 according to the invention in region III surface motion curves of the coupling rod are achieved, which can be adjusted to the structural conditions in the vehicle and the position of the wiper motor 18 relative to the windshield wiper. Thus harmonized motion paths result on the windshield. The prior art wiper drive apparatus according to Hayashi, et al, cannot achieve the desirable kinematics achieved by the structure according to the invention. In contrast, the added coupling mechanism 20 provides greater flexibility in locating the drive motor in order to provide the better kinematics, but is nevertheless comparatively compact and simple.

In order to anticipate a claimed apparatus each and every feature of the application must be disclosed in a single prior art reference (M.P.E.P. 2131). Hayashi, et al, does not disclose the added coupling mechanism 20 that couples the wiper motor with the lever drive mechanisms for the wipers.

Hayashi, et al, does not disclose a wiper drive apparatus having the equivalent of the applicants' coupling mechanism 20, and thus cannot anticipate claims 18 to 38.

For the foregoing reasons and because of the changes in claim wording it is respectfully submitted that none of new claims 18 to 38 should be rejected as anticipated under 35 U.S.C. 102 (b) based on Hayashi, et al, JP 10-278744.

VII. Relationship of Claimed Subject Matter to Hayashi, et al, Under 35 U.S.C. 103 (a)

There is no suggestion of the coupling mechanism 20 of applicants' claims 18 and 29 in Hayashi, et al. As indicated in Chapter 21 on Patentability in the M.P.E.P. there must be some suggestion of all features of a claimed invention in order to reject it under 35 U.S.C. 103 (a).

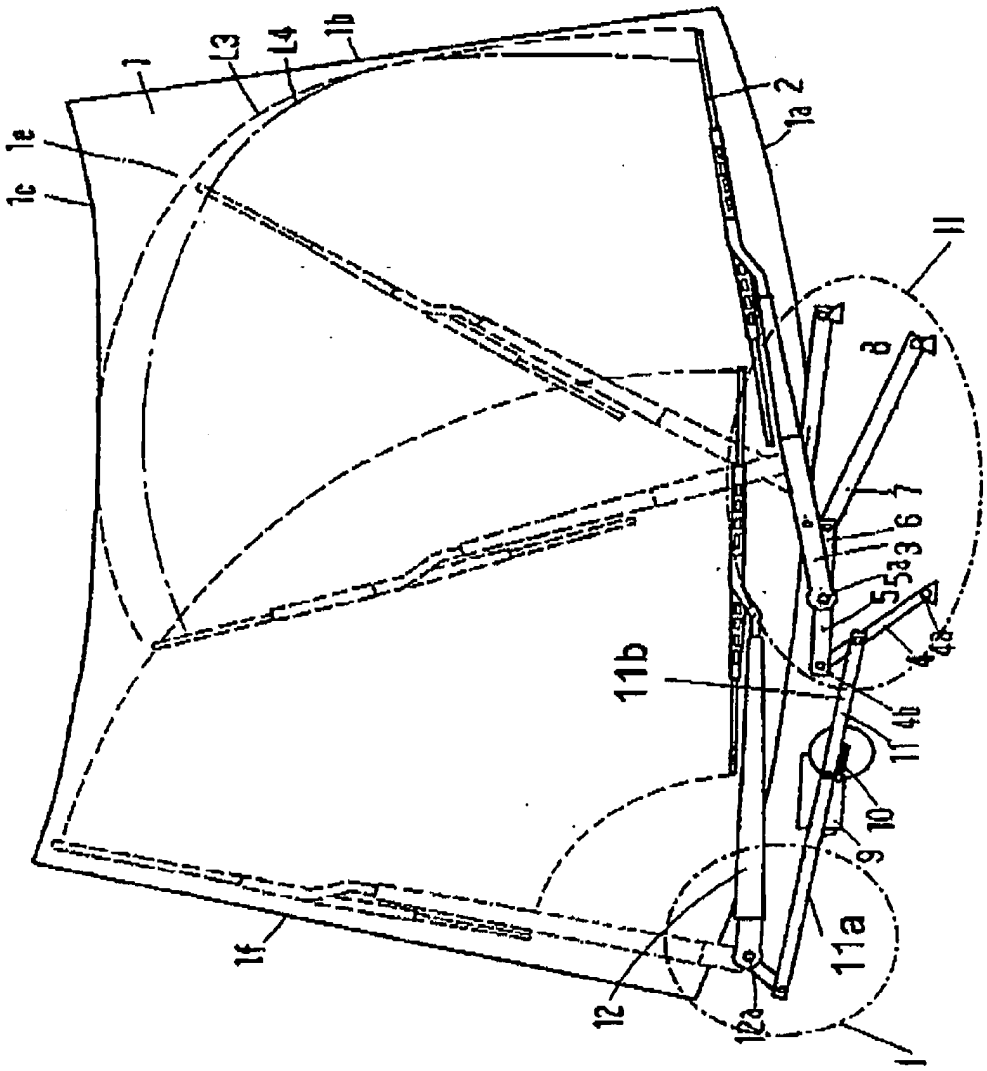
For the foregoing reasons and because of the changes in claim wording it is respectfully submitted that none of new claims 18 to 38 should be rejected as obvious or unpatentable under 35 U.S.C. 103 (a) based on Hayashi, et al, JP 10-278744.

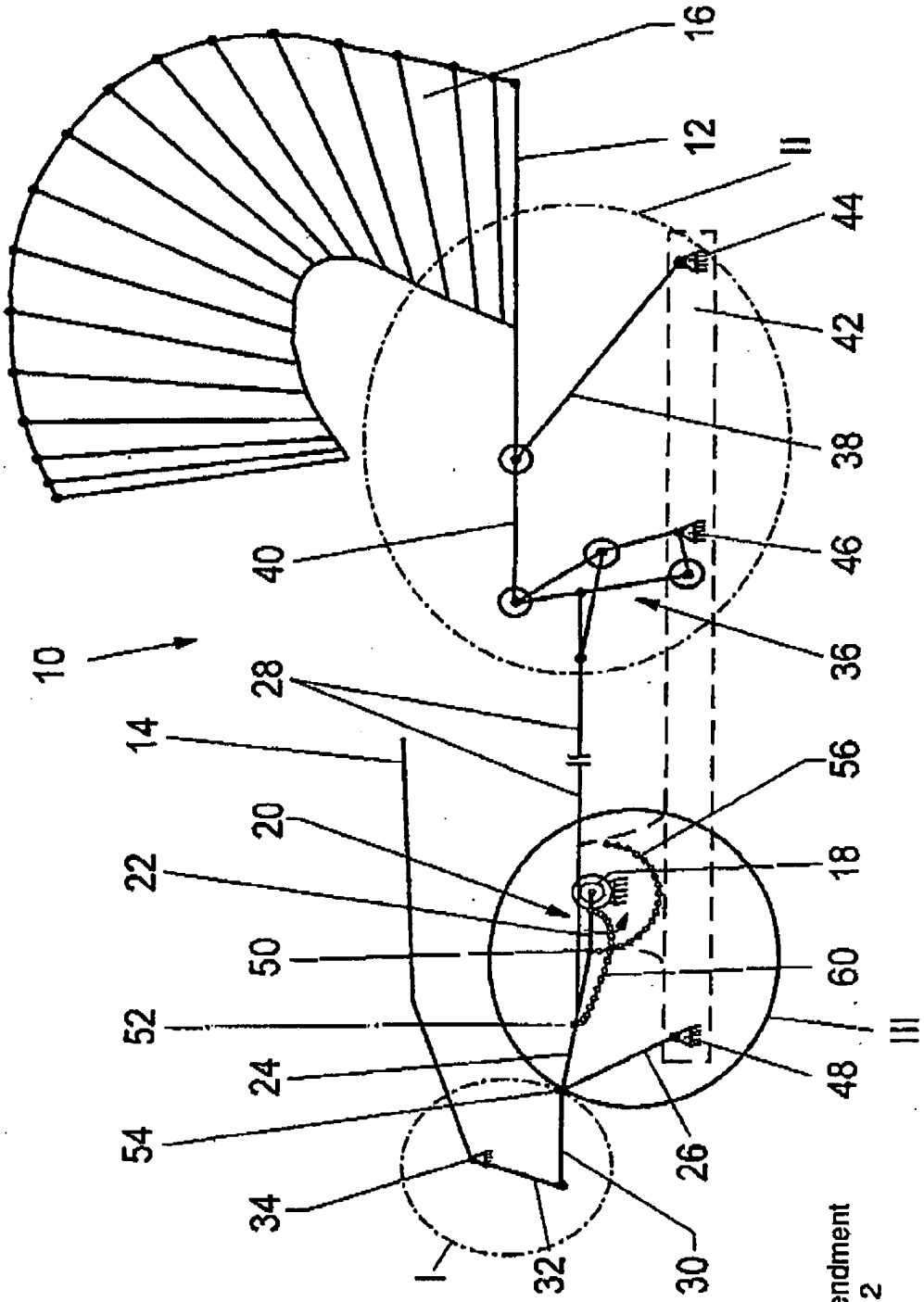
Should the Examiner require or consider it advisable that the specification, claims and/or drawing be further amended or corrected in formal respects to put this case in condition for final allowance, then it is requested that such amendments or corrections be carried out by Examiner's Amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing the case to allowance, he or she is invited to telephone the undersigned at 1-631-549 4700.

US 5,920,948
= JP 10-278744

Amendment

FIG. 1





Amendment
Fig. 2

In view of the foregoing, favorable allowance is respectfully solicited.

Respectfully submitted,

Michael J. Striker,
Attorney for the Applicants
Reg. No. 27,233

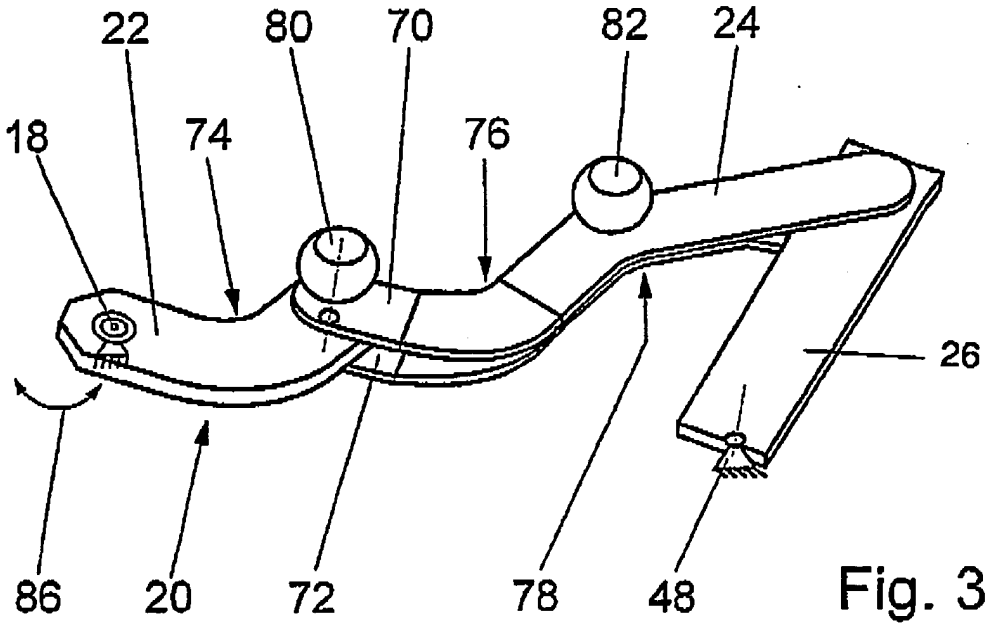


Fig. 3

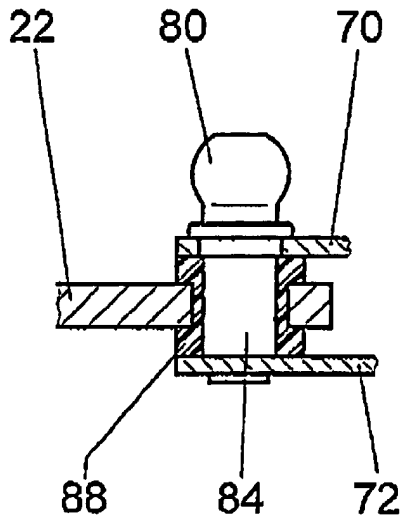


Fig. 4

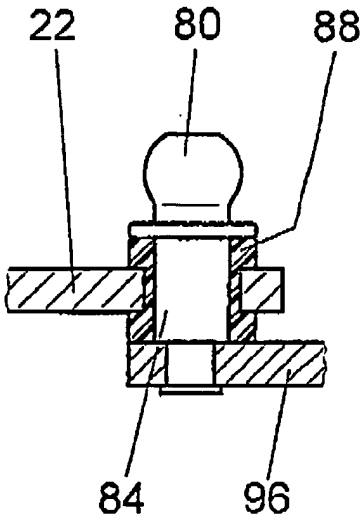


Fig. 5

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner: T.R. Till; Art Unit: 1744; Docket No.: 1505

In RE: **Application of Joachim ZIMMER**

Ser. No.: **09/787,572**

Filed: **March 19, 2001**

MARKED-UP COPY OF ORIGINALLY FILED SPECIFICATION

FILED UNDER M.P.E.P. 608.01 (Q)

IN SUPPORT OF SUBSTITUTE SPECIFICATION

Hon. Commissioner of Patents

and Trademarks,

Washington, D. C. 20231

Sir:

In response to the Office Action dated December 27, 2002, please accept the following marked-up copy of the originally filed specification showing the changes made to obtain the substitute sp cification filed in the accompanying amendment:

In the Specificati n:

The following is the marked-up copy of the originally filed specification showing the changes made to obtain the substitute specification, which is warranted to contain no new matter:

~~Prior Art~~ BACKGROUND OF THE INVENTION

The invention is based on a wiper system drive apparatus comprising a wiper motor, a lever drive mechanism connected with a wiper of the wiper system and a coupling mechanism connecting the wiper motor with the lever drive mechanism in order to drive the wiper with the wiper motor ~~as generically defined by the preamble to claim 1~~.

Wiper systems with multiple windshield wipers for motor vehicles are fastened by their wiper bearings directly or indirectly via a mounting plate to the vehicle body. The mounting plate or a tubular mounting plate - if the wiper carrier also includes tubular hollow profiles - includes a motor mounting plate, which carries a wiper drive with a wiper motor and a ~~gear~~ drive mechanism mounted thereon. A power takeoff shaft of the drive mechanism is mounted in a drive dome ~~gear is supported in a gear dome~~ and, as a rule via a crank and joint rods, drives further cranks, which are rigidly ~~solidly~~ connected to the drive shafts of the windshield wipers ~~a drive shaft for each windshield wiper~~.

It is also possible for the power takeoff shaft of the wiper motor to drive a four-bar lever drive mechanism. This drive mechanism has a drive lever, which is ~~seated pivotably~~ pivotally mounted on a drive axle ~~axis~~ and is connected in articulated fashion to a guide rod lever via a coupling rod. This lever is ~~pivotably~~ pivotally supported on a stationary

shaft. A fastening part of a wiper arm is formed integrally onto the coupling rod and with it forms a so-called four-bar wiper lever, to which the joint part of the wiper arm is fastened via a foldaway joint. The drive lever can be driven directly from a power takeoff shaft of the wiper motor or via a crank and joint rods. It can also be embodied as a cross lever. The kinematics of the four-bar lever mechanism effect a combined reciprocating and swiveling motion of the windshield wiper. As a result, the windshield wiper is better able to follow the angular contour of a vehicle window. If two synchronized windshield wipers are provided, then as a rule only one is driven via a four-bar lever mechanism, while the other is connected to a driven element, via a joint rod and a crank.

So that the forces on the joint rods will be slight, the crank has a relatively great length. This means a long radius of the crank path, which together with the typically low ratio of the crank radius to the rod length of approximately 1/4 to 1/7 demands a correspondingly large structural volume and associated room to move for the wiper linkage. Furthermore, it leads to an inharmonious course of motion. Wiper drives with reversible wiper motors are also known, in which the crank on the power takeoff shaft of the wiper motor executes a virtually semicircular pivoting motion. This drive requires markedly less room to move for the crank on the wiper motor.

In the known drives, the position of the wiper motor determines the location and geometry of the drive curve for the joint rods. Since the wiper motor and the lever drive mechanism cannot be positioned arbitrarily however, because the space in the vehicle is limited and is used for other equipment, the result is often unfavorable kinematics, which leads to an unfavorable course of speed and acceleration for the lever mechanism and as

a rule requires a large amount of room to move. The result is compromises, which adversely affect the quality and reliability of the wiper system.

From European Patent Disclosure EP 0 781 691 A1, a wiper drive is known that comprises a wiper motor and a lever drive mechanism. An offset-bent drive crank is seated on the power takeoff shaft of the wiper motor. A joint rod, which is ~~pivotably~~ pivotally connected to the drive crank via a ball joint, is also ~~pivotably~~ pivotally connected by its free end, again via a ball joint, to a crank embodied as a crank plate, which is fastened to a drive shaft of a windshield wiper. Via a further ball joint, the crank plate is engaged by a second joint rod, which with its free end is ~~pivotably~~ pivotally connected to a crank that is fastened to a drive shaft for a second windshield wiper. The lever mechanism comprising cranks and joint rods is very complicated and requires a great amount of room to move.

~~Advantages of the Invention~~ SUMMARY OF THE INVENTION

According to the invention, a coupling rod, which is ~~pivotably~~ pivotally connected to a guide rod ~~pivotably~~ pivotally supported on a vehicle body, is connected in articulated fashion to ~~the~~ a crank; the thus-formed coupling mechanism ~~gear~~ is connected to the lever drive mechanism ~~lever~~ via a ~~the~~ joint rod. The coupling mechanism ~~gear~~, which in particular requires only little, compact room for motion, if a reversible wiper motor is used, offers many opportunities for ~~pivotably~~ pivotally connecting the joint rods and driving them. Thus the kinematics of the wiper drive can be varied such that by the selected articulated connection of the joint rods to the coupling mechanism ~~gear~~, an

unfavorable position of the wiper motor can be compensated for. As a result, the position of the wiper motor can be selected freely in accordance with the space available in the vehicle, without having to accept the above-described disadvantages into the bargain.

The coupling rod can be a simple sheet-metal part, which on each of its ends has a joint pin that is adjoined by the guide rod and the crank, respectively, via a bearing shell. The joint pins can be fastened unilaterally to the coupling rod. To avoid bending forces at the attachment points between the joint pins and the coupling rod, it is expedient that the coupling rod have two sheet-metal parts, between which it retains at least one joint pin on its face ends. Because of the two-sided fastening of the joint pins and the bearing of the crank or guide rod between the fastening points, the bending forces are very slight.

If the crank, coupling rod and guide rod are located in the same plane, the joint pins can be embodied cylindrically. If not, ball joints can be provided instead. If the joint pins are fastened to the coupling rod on both of their face ends, then the coupling rod has a considerable height in the region of the joints. It is therefore advantageous to design the coupling rod in forked fashion on its ends, and it retains the joint pin in the fork. As a result, it can assume an arbitrary height between the joints, so that in the case of a shallow design of the coupling rod, freedom of motion for the levers and articulation points is assured. This kind of design is suitable both for die-cast coupling rods and for coupling rods made of sheet-metal parts.

If the coupling rod has two sheet-metal parts, then the sheet-metal parts are expediently tacked together locally between the joint pins. One sheet-metal part can be curved toward the other, so that because of the offset bending of the sheet-metal part in the longitudinal direction of the coupling rod, free room to move is obtained for further

drive parts. The coupling rod can also have offset bends transversely to the direction of motion, which assure freedom of motion for other drive parts.

The joint rods can be ~~pivotably~~ pivotally connected at various points of the coupling gear. This purpose is served by ball pegs, which are disposed for instance on the crank of the wiper-motor, on the guide rod, on the coupling rod between the joints, or at the joint pins. If the ball pegs are disposed on the crank of the wiper motor or on the coupling rod or on the guide rod, then typically they are secured by wobble riveting. If the coupling rod, is locally tacked together between the joint pins, this can also be done by means of a ball peg which joins the two sheet-metal parts to one another in this region by wobble riveting.

A plurality of windshield wipers, as a rule two, can be driven via the coupling gear. In that case, many ball pegs should be provided, which can also be embodied as double-ball pegs.

~~Drawing~~ BRIEF DESCRIPTION OF THE DRAWING

Further advantages will become apparent from the ensuing description of the drawing. In the drawing, exemplary embodiments of the invention are shown. The drawing, description and claims include numerous characteristics in combination. One skilled in the art will expediently consider the characteristics individually as well and put them together to make useful further combinations.

Shown are:

Fig. 1, a schematic illustration of a drive apparatus of a wiper system according to the invention;

Fig. 2, a schematic illustration of a wiper motor with a coupling mechanism ~~gear~~ and various motion curves of points on the coupling mechanism;

Fig. 3, a perspective view of a coupling mechanism ~~gear~~ according to the invention;

Fig. 4, a side cross-sectional view of a bearing point of the coupling rod of the coupling mechanism ~~in section~~;

Figs. 5-6, variants of Fig. 4;

Fig. 7, a longitudinal section through a coupling rod of the coupling mechanism; and

Figs. 8-10, variants of Fig. 7.

Description of the Exemplary Embodiments

The wiper system 10 has two windshield wipers 12 and 14. The windshield wiper 14 is driven by a wiper motor 18 via a coupling mechanism ~~gear~~ 20 and a joint rod 30. The joint rod 30 is connected in articulated fashion to a crank 32, which drives a drive shaft 34 on which the windshield wiper 14 is mounted ~~seated~~. Upon actuation, the windshield wiper 14 executes a simple swiveling motion about the drive shaft 34.

The coupling mechanism ~~gear~~ 20 includes a crank 22, a ~~further~~ coupling rod 24 ~~pivotably~~ pivotally connected to the crank 22 via a joint 50, and a guide rod 26, which is connected on one end via a joint 54 to the coupling rod 24 and on ~~by~~ its other end is ~~pivotably~~ pivotally supported at a bearing point 48 on the vehicle, or on a mounting plate 42 ~~solidly~~ rigidly connected to the vehicle. The crank 22 is driven by the wiper motor 18,

which is a reversing motor, and the joint 50 between the crank 22 and the coupling rod 24 describes a motion curve 56.

The wiper 12 is fastened to a four-bar wiper lever 40, which is ~~pivotably~~ pivotally connected to a guide rod 38 and to a drive lever in the form of a cross guide rod 36. The guide rod 38 and the cross guide rod 36 are ~~pivotably~~ pivotally supported ~~in~~ at respective bearing points 44 and 46 on the mounting plate 42. Because of the four-bar wiper lever 40, the windshield wiper 12 executes a reciprocating and swiveling motion and creates a swept field 16 that conforms well to an angular contour of a windshield well.

The cross guide rod 36 ~~46~~ is driven by a joint rod 28, which is ~~pivotably~~ pivotally connected to coupling rod 24 at a joint 52 having a ball peg 80 between the joints 50 and 54 of the coupling rod 24. During the actuation of the wiper motor 18, the joint 52 describes a motion curve 60 with a very shallow course, so that the joint rod 28 essentially executes a reciprocating motion and thus needs only very little room to move, and this amount of room varies hardly at all if the spacing between the wiper motor 18 and the drive lever 36 varies. Fig. 2, on a larger scale, shows the motion curves 56 of the joint 50 and of the joint 52. Alternative motion curves 62 for an articulation point 68 and a motion curve 64 for an articulation point 66 are also shown. The motion curve 58 illustrates the swiveling motion of the guide rod 26 about the bearing point 48 and thus the end of the joint rod 30 for the actuation of the windshield wiper 14.

Depending on the disposition of the wipers 12 and 14 and on the position of the wiper motor 18, the joint rods 28, 30 can be articulated at suitable articulation points of the coupling mechanism ~~gear~~ 20.

The embodiment ~~version~~ of the coupling mechanism ~~gear~~ 20 in Fig. 3 has a crank 22 with an offset bend 74 in the direction of motion. Upon a swiveling motion in the direction of the arrow 86, this enables freedom from collision with a ball peg 82 on the coupling rod 24. The coupling rod 24 in turn also has offset bends 76 and 78, which assure freedom from collision with other drive parts.

The embodiment ~~version~~ of Fig. 4 has a joint pin 84 with a formed-on ball peg 80. The joint pin 84 is connected to ~~a~~ coupling rod 24, which comprises two sheet-metal parts 70 and 72, the joint pin being riveted to the sheet-metal part 72, while the other sheet-metal part 70 is retained between a bearing shell 88 and the ball peg 80. The bearing shell 88 is ~~solidly~~ rigidly connected to the crank 22, preferably being cast integral as a plastic part. The version of Fig. 5 differs from the version of Fig. 4 in that the joint pin 84 is unilaterally connected to a coupling rod, which comprises a single sheet-metal part 96 or a corresponding die-cast part. In the embodiment ~~version~~ of Fig. 6, a joint pin 90 is riveted unilaterally to the crank 22. Between the crank 22 and a collar of the joint pin 90, the bearing shell 88 is provided, which is ~~solidly~~ rigidly connected to the coupling rod 24.

In the embodiments ~~versions~~ of Figs. 7-10, the coupling rod 24 comprises two sheet-metal parts 70 and 72, which are forklike on their ends, being tacked together in a middle region. In the forks on their ends, the sheet-metal parts 70, 72 retain joint pins 84 with bearing shells 88, to which the crank 22 and the guide rod 26, respectively, are fastened.

In the embodiment ~~version~~ of Fig. 7, one ball peg 80 is secured to the crank 22, while a further ball peg 82 is disposed on the coupling rod 24 between the joint pins 84. The sheet-metal parts 70 and 72 are tacked together by the ball peg 82, and the sheet-

metal part 72 is curved toward the sheet-metal part 70 and forms an offset bend 92, to assure freedom from collision with other drive parts.

In a different embodiment from that ~~distinction from the version~~ of Fig. 7, the ball peg 80 in Fig. 8 is integrally embodied with the joint pin 84. Fig. 9 shows ~~a version~~ an embodiment in which a double-ball peg 94 suitably replaces the ball peg 82 of the versions in Figs. 7 and 8. Finally, in the ~~version~~ embodiment of Fig. 10, the ball pegs 80 and 82 are disposed side by side on the coupling part 24 between the joint pins 84. By means of them, the sheet-metal parts 70 and 72 are joined together in the same way as in the versions of Figs. 7-9. As a result, there are numerous possible ways of varying the locations and designs of the articulation points of the joint rods 28, 30.

REMARKS

The above marked-up copy of the originally filed specification shows the changes that were made to obtain the substitute specification filed in the accompanying amendment. This marked-up copy is filed under M.P.E.P. 608.01 (q). The substitute specification is warranted to contain no new matter. The substitute specification has been prepared in accordance with 37 C.F.R. 1.125 (b).

The specification was put in the standard U.S. format by means of the above changes. Standard section headings recommended by U.S. Patent Office rules have been provided by making changes, when necessary. In addition, changes were made to correct inappropriate and/or incorrect English wording and erroneous translation to English. Some drawing reference number changes were also required to correctly reference the

appropriate part in the drawing figures.

The term "gear" which appeared in claims as well as the specification was an inappropriate translation of the German word "Getriebe", which has several different meanings according to the context. The word "Getriebe" can mean "drive unit or drive mechanism or gears or transmission or gear unit". However according to the context, "drive unit" or "drive mechanism", i.e. a collection of mechanical elements or parts, which cooperate to drive something else, is the appropriate English translation of this German word. Hence the term "coupling lever" should have been translated "coupling drive" or "coupling mechanism". This latter translation has been used in the above substitute specification and in the claims. This change does not introduce "new matter" because it is apparent from the figure 1 that the collection of parts 22, 24, 26, etc. is a coupling drive or mechanism, i.e. a means for transferring or converting an applied mechanical force or motion to move an element, such as the lever drive, connected with the coupling mechanism. Some other inappropriate choices for English translation of German words have been changed to more appropriate choices.

Since there is some uncertainty regarding whether or not the "List of Reference Numerals" on pages 15 and 16 is actually part of the "specification" since it follows the abstract and claims, it has not been included in the listing of the substitute specification above. Pages 15 and 16 should not be considered part of the specification, but only as additional information provided for convenience. On the other hand, if pages 15 and 16 are considered part of the specification, they are deleted in their entirety for preparation of the substitute specification because parts lists or reference number lists are not necessary in issued U.S. Patents. No information appears on pages 15 and 16 that is not already in

the specification.

No new matter has been entered, either by deletion or addition.

Should the Examiner require or consider it advisable that the specification, claims and/or drawing be further amended or corrected in formal respects to put this case in condition for final allowance, then it is requested that such amendments or corrections be carried out by Examiner's Amendment and the case passed to issue. Alternatively, should the Examiner feel that a personal discussion might be helpful in advancing the case to allowance, he or she is invited to telephone the undersigned at 1-631-549 4700.

In view of the foregoing, favorable allowance is respectfully solicited.

Respectfully submitted,

Michael J. Striker,
Attorney for the Applicants
Reg. No. 27,233